Amendments to the Specification:

Please replace the paragraph beginning at page 5, line 10 with the following rewritten paragraph:

Figure 3 shows the basic circuit diagram of an XPM compensation arrangement. A wavelength-division multiplex signal WMS is transmitted via a transmission fiber 1 and amplified by a fiber amplifier 6. The input of the fiber amplifier is preceded by an XPM compensation device 5, 3, 4, 2. This contains a phase modulator 2 which is supplied with the wavelength-division multiple signal WMS. The phase modulator is here followed by a measurement ~~transducer or~~ coupler 5 which branches off an optical measurement signal OMS corresponding to the wavelength-division multiplex signal whereas the main component of the energy is supplied to the input of the fiber amplifier 6. The optical measurement signal OMS is initially converted, in an opto-electrical transducer, into an electrical measurement signal EMS which can also be used for control purposes for the amplifier, and is then amplified in an electrical amplifier 4. The control signal SMS generated in this manner controls the phase modulator 2 in such a manner that the cross phase modulation generated in the fiber amplifier 6 is at least almost (pre-) compensated for.

C1

Please replace the paragraph beginning at page 5, line 33 with the following rewritten paragraph:

The compensation can be optimized by changing the gain. With the usual high data rates, optimum compensation can be impeded by delays in the transducer 3, the amplifier 4 and the phase modulator 2. This is why a delay device 10 (Figure 5), which can be constructed as part of the amplifier fiber, of a dispersion-compensating fiber, or as transmission fiber, is inserted between the measurement ~~transducer~~ coupler 5 and the phase modulator 2 in the compensation device shown in Figure 5. The XPM compensation arrangement follows the fiber amplifier 6 in Figure 5.

C2